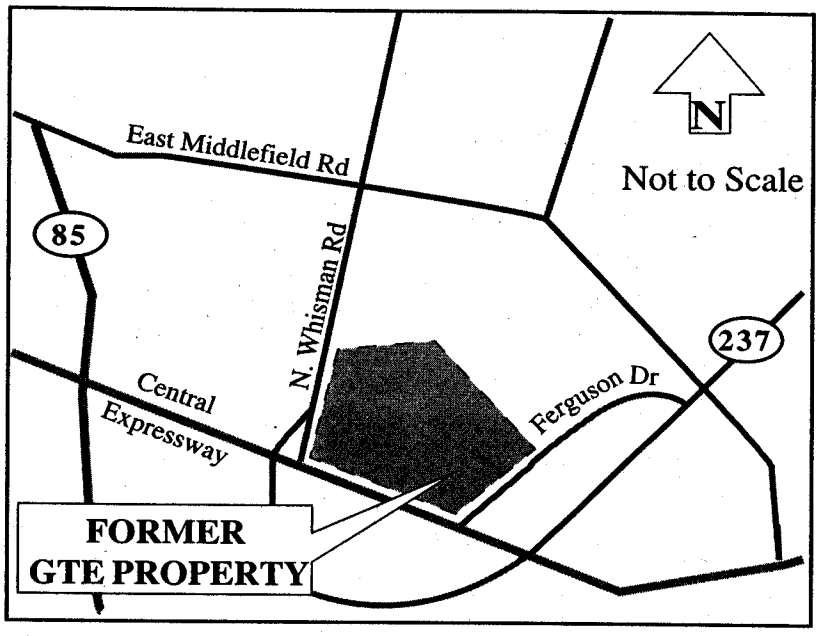
United States Environmental Protection Agency • Region 9 • San Francisco • California

Report on Pesticides in Soil at the Town Square and Whisman Park Properties

Mountain View, California

November 1998



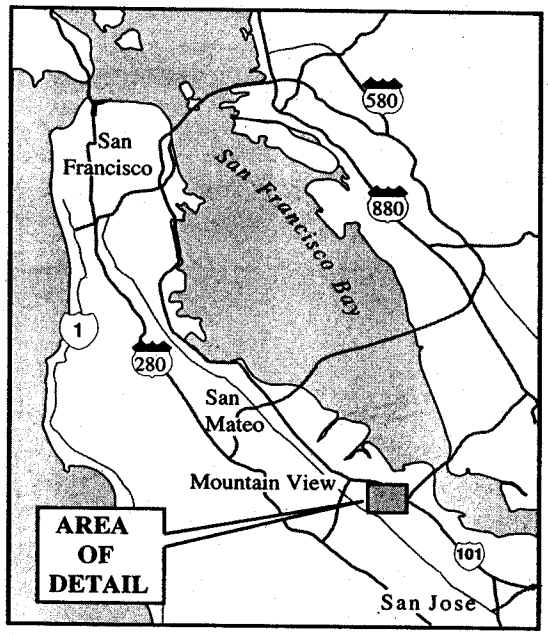


FIGURE 1 Former GTE Property Location Map

INTRODUCTION

The United States Environmental Protection Agency (EPA) is publishing this fact sheet for current and future residents to provide information about pesticide soil contamination and to address some of the questions homeowners might have.

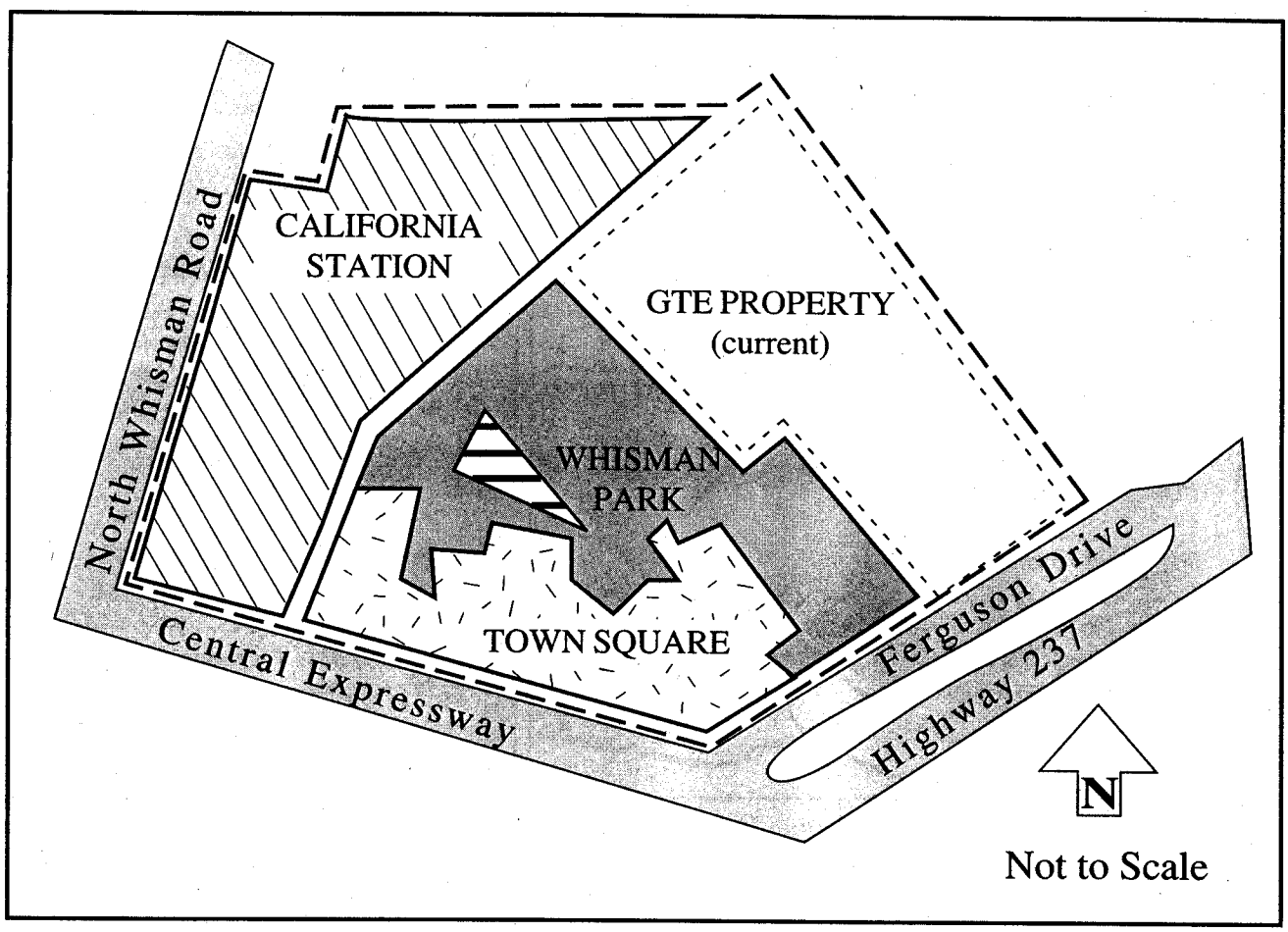
Trace levels of pesticides were found in soil on the Town Square and Whisman Park properties, most likely as a result of past agricultural activities when the property was an orchard. No pesticide-contaminated soil was found on the California Station property above EPA health-based screening levels. A risk evaluation entitled "Human Health Risk Assessment of Pesticides in Surface Soil, GTE Government Systems" dated January 8, 1998 was conducted by environmental consultants for GTE to determine the potential health impact to residents exposed to pesticide-contaminated soil.

EPA has reviewed this human health risk assessment and concludes the health risks for current and future residents from pesticides in soil are minimal and within EPA's health-protective risk range.

Pesticides in soil do not pose a health threat to current and future residents.

BACKGROUND

GTE Government Systems Corporation is located at 100 Ferguson Drive in Mountain View, California. From 1952-1995, GTE owned the 60-acre property within the area bordered by Central Expressway, Ferguson Drive and Whisman Road [Figure 1]. Prior to 1952, the property was an orchard where pesticides were routinely used to increase crop production. From 1952-1993, GTE designed and assembled electronics and communications equipment. In 1995, GTE sold approximately 2/3 of their property, which was converted into three land developments: Town Square, Whisman Park, and California Station [Figure 2].



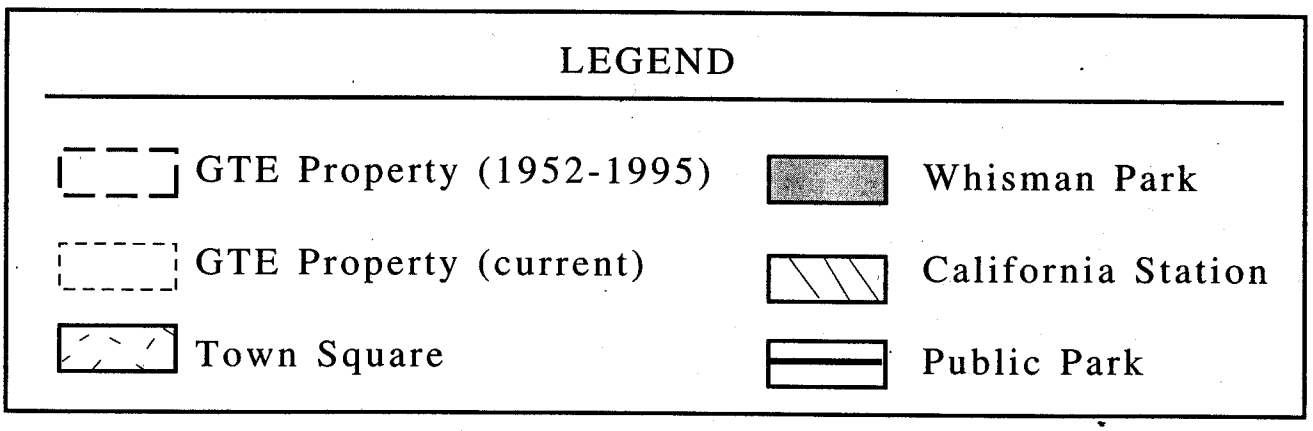


FIGURE 2 Property Boundary Map

WHAT'S A HUMAN HEALTH RISK ASSESSMENT?

EPA often requires facilities to conduct human health risk assessments to evaluate the potential cancer causing (carcinogenic) and non-cancer causing (non-carcinogenic) health risks to people exposed to contaminants. These studies generally consider the chemical properties, the amount of chemical present, and the degree to which individuals can be exposed. EPA risk evaluation methods for estimating health risk are designed to be overly protective of human health.

EPA concludes there is no appreciable risk from pesticides in soil and the health risk falls in EPA's health-protective risk range. EPA made this conclusion after reviewing a risk study entitled "Human Health Risk Assessment of Pesticides in Surface Soil, GTE Government Systems" dated January 8, 1998, prepared by environmental consultants for GTE. The study uses EPA health risk methods to evaluate the potential health impacts of pesticide-contaminated soil on residents of Town Square and Whisman Park.

Although the report considers two concepts in health risk calculations, bioavailability (the amount of chemical that can be absorbed by the body) and biodegradation (the reduction of chemicals by microorganisms), EPA feels that including these concepts may artificially reduce the health risk. While bioavailability and biodegradation are documented in scientific literature, it is difficult to quantify the degree to which they will reduce health risks. Therefore, EPA has selected the health risk where neither bioavailability or biodegradation are considered. Even so, the health risk levels of pesticide-contaminated soil still fall within EPA's health-protective risk range.

PROPERTY HISTORY: SAMPLING FOR PESTICIDES IN SOIL

Since 1988, GTE has been working with EPA to address soil and groundwater contamination from past industrial activities. In early 1995, 12 soil samples were collected across the entire former GTE property analyzed for pesticides. Of these samples, one area on the current Town Square property had pesticides in soil. The pesticide-contaminated soil in this area was completely removed and treated offsite.

Prior to land redevelopment for housing, additional soil samples were taken across the Town Square, Whisman Park, and California Station properties in late 1996 to early 1997. On the California Station property, the few samples with detectable levels of pesticides were at concentrations far below EPA's health-based screening levels. However, on both Town Square and Whisman Park properties, pesticides were detected above these screening levels.

Consequently, 28 additional soil samples were taken on the Town Square and Whisman Park properties in November 1997 to evaluate pesticide levels. These soil analyses indicated low concentrations of pesticides on the Town Square and Whisman Park properties in the parts per billion levels and a few areas in the low parts per million levels [Figure 3].

Because pesticides in soil were detected at concentrations above EPA health-based screening levels, GTE conducted a human health risk assessment to evaluate the potential health impact of pesticide-contaminated soil for residents of Town Square and Whisman Park. EPA evaluated this health risk study and concludes that the potential for health problems from pesticide-contaminated soil for current and future residents of Town Square and Whisman Park is small and falls within EPA's health-protective risk range [Figure 4].

"What's one part per million (ppm)?"
One milligram (mg) of pesticide in one million mg of soil .

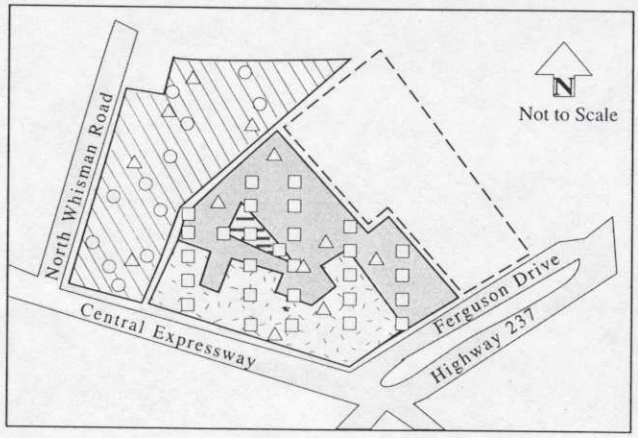
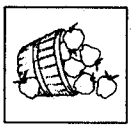


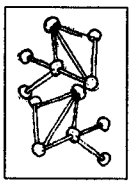
FIGURE 3 Soil Sample Locations

QUESTIONS & ANSWERS ABOUT PESTICIDE-CONTAMINATED SOIL



Q: How did pesticides get on the Town Square and Whisman Park properties?

A: Prior to 1952, the property was an orchard, where pesticides were commonly applied to increase crop production. Pesticides are still commonly used to increase the amount and quality of crops.



Q: What types of pesticides are present in the soil?

A: Six pesticides were detected in soil samples. The pesticides most frequently detected are chlordane and 4,4'-DDT, commonly known as DDT. Other pesticides that were detected include heptachlor epoxide B, 4,4'-DDE, and dieldrin. The pesticide detected at the highest concentration is chlordane at 26 parts per million (ppm). Using EPA's health risk methods, the potential for health problems from pesticides is minimal.

Q: Where are the pesticides?

A: Trace levels of pesticides were found in the top two feet of soil.

Q: How might I be exposed to pesticides?

A: You could be exposed to pesticides in a variety of ways: from breathing (inhalation), from eating (ingestion) and from skin contact (dermal exposure). When you work in your yard, you come into direct contact with soil, touching it with your hands and breathing in small soil particles. It's also common for some of the dust in your house to come from the soil in your yard. Eating unwashed fruits and vegetables from your garden is another way to incidentally ingest soil. Since most of the pesticide-contaminated soil will be paved over with sidewalks or covered by landscaping, your exposure to any pesticides will be greatly reduced.

Q: Could pesticides in soil affect my health?

A: Pesticides in soil do not pose a health threat for current and future residents, including children. The health risk falls within EPA's health-protective risk range. Furthermore, EPA believes this calculated risk is conservative and that the actual health risk is smaller. The risk assessment includes conservative assumptions, such as an individual ingesting 100 mg/day of soil, 350 days each year for 30 years. The actual exposure to pesticides will be greatly reduced, since landscaping and paved areas will cover pesticide-contaminated soil.

The cancer risk from pesticide-contaminated soil to Town Square and Whisman Park residents is within EPA's "health-protective risk range" [Figure 4]. The risk assessment also evaluated the potential for non-cancer health problems to residents exposed to pesticide-contaminated soil. EPA believes non-cancer health effects to organ systems are less likely to occur unless certain threshold levels of pesticide exposure are exceeded. The risk assessment indicates that the low levels of pesticides are at, but do not exceed EPA's threshold level.

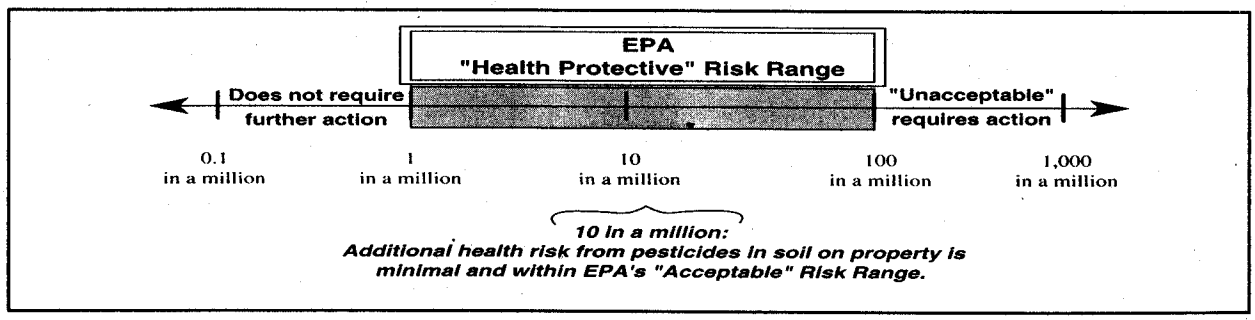


FIGURE 4 EPA's "Health Protective" Risk Range

Q: 
A:

Could my children's health be affected from playing in the yard?
It's very unlikely that children will develop health problems as a result of pesticides in soil, even taking into account studies that suggest that children may have a higher sensitivity to pesticides than adults. The health risk study accounts for the additional exposure children may have to pesticides.

Q: 
A:

Can I eat vegetables and fruits from my garden?
Eating vegetables and fruits grown in your garden is safe. However, EPA would still recommend washing your fruits and vegetables before eating them.

Q:

Is my drinking water affected by pesticides in soil?

A: 
No, the water from your tap is not affected. Nearly all drinking water in Mountain View comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains. The rest of the drinking water comes from wells that are not on the property. The groundwater beneath your property is not used as a drinking water supply.

Q: 
A:

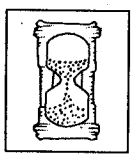
Is it safe to do construction on my property?
Doing construction projects on your property is safe. The health risks calculated for construction workers fall far below the threshold where health problems begin. Since construction workers are more likely to have greater exposure to contaminated soil during construction, EPA believes that you will not be harmed by exposure to pesticide-contaminated soil while doing home improvement projects on your property.

Q: 
A:

Are the pesticides going to be removed from the property?
Because the health risk from pesticides at this location indicates that health problems are unlikely, EPA does not believe removing the residual levels of pesticide-contaminated soil is warranted.

Q:

Will the health risk from pesticide exposure diminish over time?

A: 
The health risk from pesticides will remain the same or decrease over time. The risk assessment assumes constant pesticide exposure over 30 years. Pesticides may decrease slowly over time by degradation in the soil, which can reduce the health risk from pesticide exposure.

UPCOMING INFORMATION/ACTIVITIES
(see cover letter for more details)

*** Community Meeting, December 2, 1998 ***

Kenneth N. Slater Elementary School
325 Gladys Avenue, Mountain View
7 - 9 p.m., Open House at 6:30 p.m.

FOR MORE INFORMATION:
If you have any questions or would like more information, please contact Jennifer Wu.
To receive future fact sheets, please contact:

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We need your help to update our mailing list for **the former GTE property**. Please mark the box and complete the coupon below. Or you may call toll free at 1-800-231-3075. Thank you.

☐ If you would like to be **ADDED** to our list

☐ If you have **CHANGED** your address

☐ If you would like to be **DELETED** from our list

If you're on our list and have **NO** changes, you **DON'T** have to reply - but you may want to pass this along to someone else who might want to be on our list. Thanks.

NAME _____

STREET ADDRESS _____

CITY/STATE/ZIP _____